ASSIGNMENT – 1

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CODE:

```
#include<Servo.h>

const int pingPin = 7;

int servoPin = 8;


Servo servo1;


void setup() {
  // initialize serial communication:
  Serial.begin(9600);
  servo1.attach(servoPin);
  pinMode(2,INPUT);
  pinMode(4,OUTPUT);
  pinMode(11,OUTPUT);
  pinMode(12,OUTPUT);
  pinMode(13,OUTPUT);
  pinMode(A0,INPUT);
  digitalWrite(2,LOW);
  digitalWrite(11,HIGH);


}


void loop() {


  long duration, inches, cm;
```

```
pinMode(pingPin, OUTPUT);
digitalWrite(pingPin, LOW);
delayMicroseconds(2);
digitalWrite(pingPin, HIGH);
delayMicroseconds(5);
digitalWrite(pingPin, LOW);



pinMode(pingPin, INPUT);
duration = pulseIn(pingPin, HIGH);

// convert the time into a distance
inches = microsecondsToInches(duration);
cm = microsecondsToCentimeters(duration);




servo1.write(0);

if(cm < 40)
{
  servo1.write(90);
  delay(2000);
}
else
{
  servo1.write(0);
}
```

```
// PIR with LED starts
int pir = digitalRead(2);

if(pir == HIGH)
{
  digitalWrite(4,HIGH);
  delay(1000);
}
else if(pir == LOW)
{
  digitalWrite(4,LOW);
}

//temp with fan
float value=analogRead(A0);
float temperature=value*0.48;

Serial.println("temperature");
Serial.println(temperature);

if(temperature > 20)
{
  digitalWrite(12,HIGH);
  digitalWrite(13,LOW);
}
else
{
  digitalWrite(12,LOW);
  digitalWrite(13,LOW);
```

```
  }
}

long microsecondsToInches(long microseconds) {
  return microseconds / 74 / 2;
}

long microsecondsToCentimeters(long microseconds) {
  return microseconds / 29 / 2;
}
```

OUTPUT: